

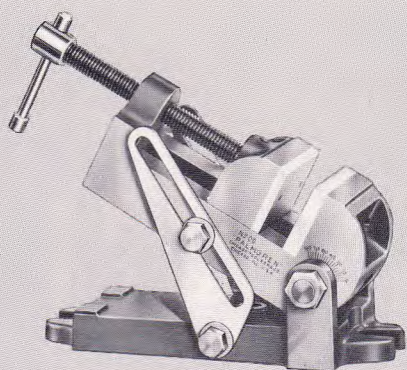
PALMGREN

STEEL PRODUCTS

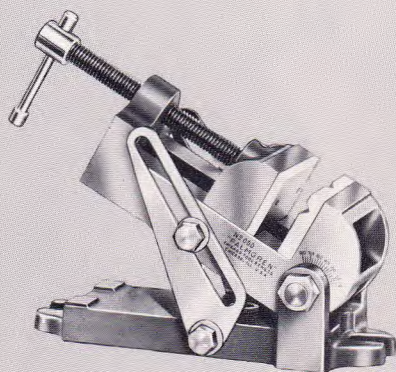


USED IN ALL INDUSTRIES... EVERYWHERE

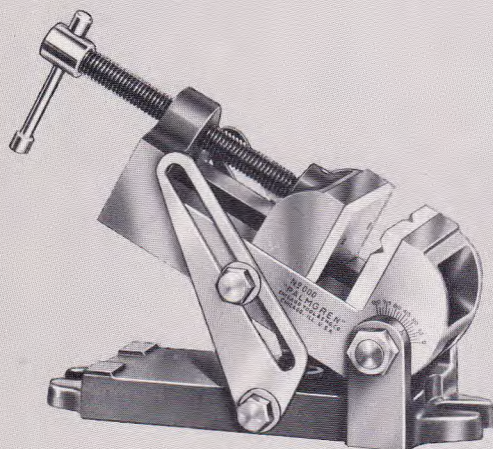
for production, tooling and maintenance



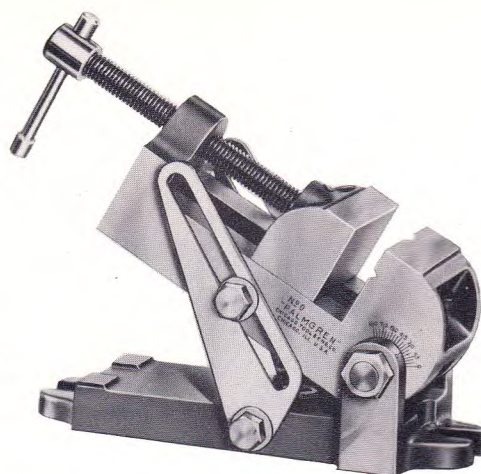
No. X0



No. X1



No. 000



No. 0

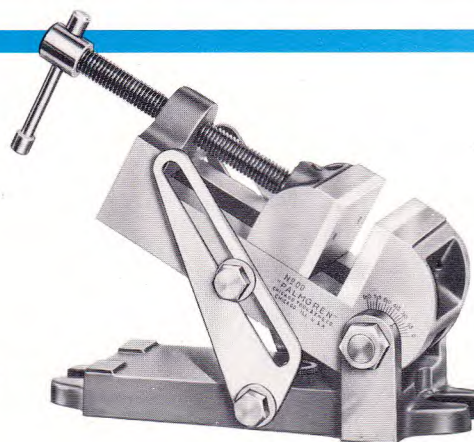
ANGLE VISES

Vises shown on this page are essentially for drill press, milling machine, grinder and bench work. Accurate set-ups are quickly made without the use of clamps, wedges or make-shift methods.

PALMGREN Angle Vises can be adjusted to full 90 degrees or used like ordinary vises when horizontal. Accurately graduated for all angles and ready for instant use by locking adjustable support screws.

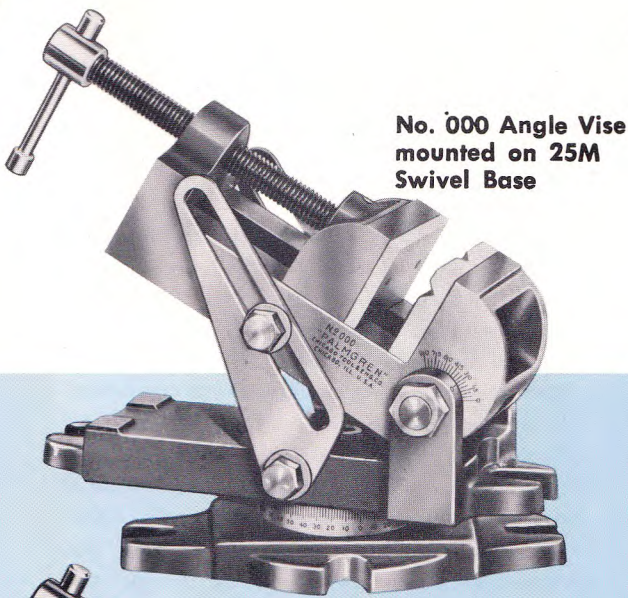
All parts are accurately machined of high quality materials. Adjusting screw has fine pitch thread and long bearing in vise body.

Vise No.	Width Jaws	Depth Jaws	Opening Jaws	Overall Length	Kind of Jaws	Weight Vise Only	Net Price
X0	1½"	1"	1½"	6⅞"	Plain Steel	4 lbs.	\$12.55
X1	1½"	1"	1½"	6⅞"	Grooved Steel	4 lbs.	12.75
0	2½"	1½"	2½"	9"	Grooved	10 lbs.	13.05
00	2½"	1½"	2½"	8⅞"	Plain Steel	10 lbs.	13.25
000	2½"	1½"	2½"	9"	Grooved Steel	10 lbs.	13.40



No. 00

ANGLE VISES with SWIVEL BASES



**No. 000 Angle Vise
mounted on 25M
Swivel Base**



**No. 000 Angle Vise
mounted on Model 25B
Bench Base**



**No. 000 Angle Vise
mounted on Model 25C
Clamp Base**

VICES and "M" BASES

Vise No.	Base No.	Price Vise and Base	Price Base Only
X0	15M	\$18.50	\$5.95
X1	15M	18.70	5.95
0	25M	20.00	6.95
00	25M	20.20	6.95
000	25M	20.35	6.95

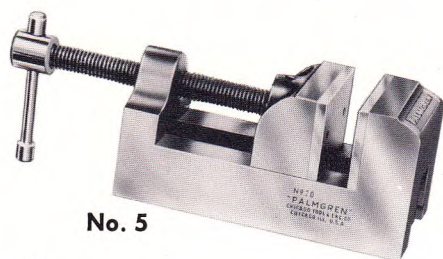
VICES and "B" BASES

Vise No.	Base No.	Price Vise and Base	Price Base Only
X0	15B	\$19.05	\$6.50
X1	15B	19.25	6.50
0	25B	20.55	7.50
00	25B	20.75	7.50
000	25B	20.90	7.50

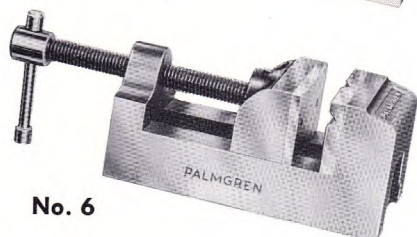
VICES and "C" BASES

Vise No.	Base No.	Price Vise and Base	Price Base Only
X0	15C	\$19.50	\$6.95
X1	15C	19.70	6.95
0	25C	21.00	7.95
00	25C	21.20	7.95
000	25C	21.35	7.95

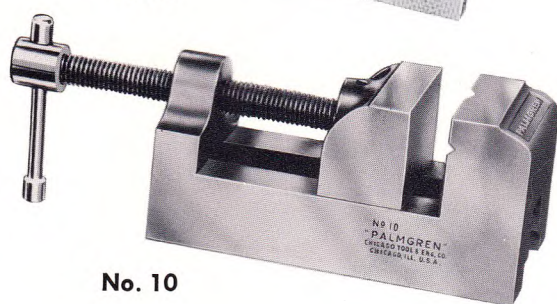
DRILL PRESS VISES



No. 5



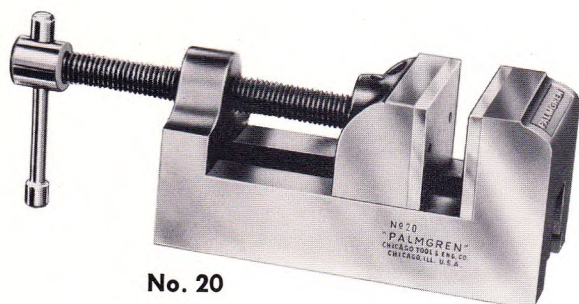
No. 6



No. 10

These multiple purpose vises can be turned on either side or stand on end for all general work. As shown on these two pages they are available in sizes from 1½ thru 4 inches. The bodies and followers are high tensile cast iron accurately machined and assembled. Lead screws are steel with precision cut thread. Plain and grooved steel jaws are optional as listed. Vertical and horizontal grooves assist in holding round parts. Essential equipment for: tool room, machine, die, research, experimental, school, home, and repair shops. Especially useful for drilling, tapping, and grinding.

Vise No.	Width Jaws	Depth Jaws	Opening Jaws	Length Overall	Weight	Net Price
5	1½"	1"	1⅞"	5⅞"	2 lbs.	\$8.85
6	1½"	1"	1⅞"	5⅞"	2 lbs.	8.95
10	2½"	1½"	3"	7½"	5½ lbs.	9.75
20	2½"	1½"	2⅞"	7⅞"	6 lbs.	9.85
30	2½"	1½"	2½"	7¼"	6 lbs.	9.95



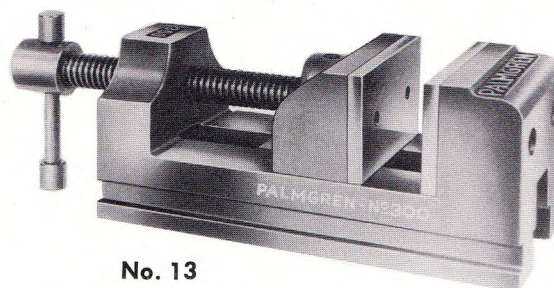
No. 20



No. 30

No. 13

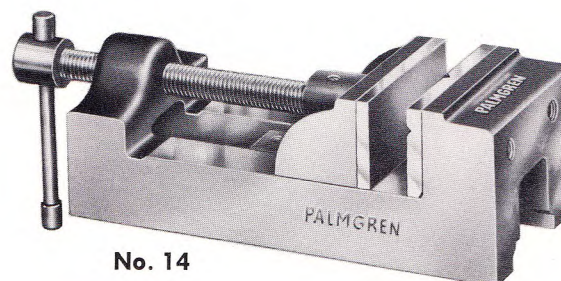
This 3 in. multi-purpose vise is extremely adaptable. It is accurately machined on four sides and one end so that it can be turned and used on either side, inverted, or stand on end as required. The body has a machined groove on each side for clamping vise to machine table. Especially suited for drilling, tapping, milling and grinding. Furnished with removable steel jaws, lead screw is precision cut Acme thread. Castings are high strength gray iron.



No. 13

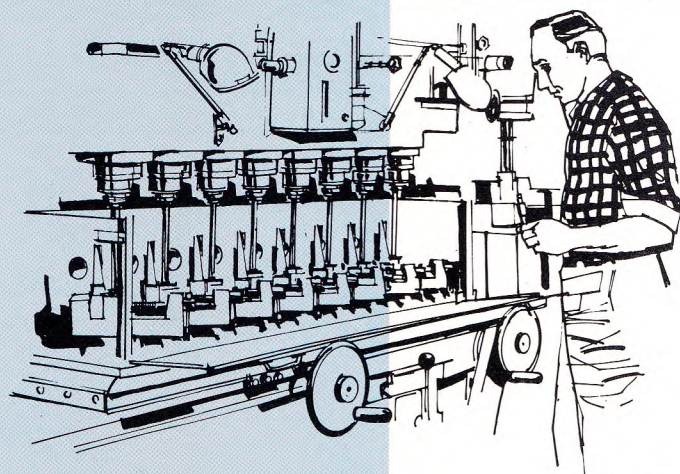
No. 14

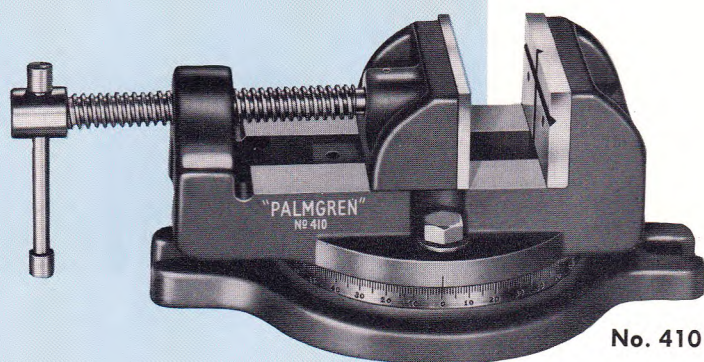
This rugged 4 inch vise has many uses in drilling, tapping, milling, and grinding. The body and follower are accurately machined so that vise can be used on either side or stand on end. Furnished with steel jaw plates; one grooved and one plain. Lead screw has precision cut Acme thread. A superior quality vise built for long service.



No. 14

Vise No.	Width Jaws	Depth Jaws	Opening Jaws	Length Overall	Width Overall	Height Overall	Net Weight	Net Price
13	3"	1 3/4"	3"	7 1/2"	3"	3"	11 lbs.	\$21.95
14	4"	1 3/4"	4"	10 3/4"	4"	3 1/8"	18 lbs.	23.95



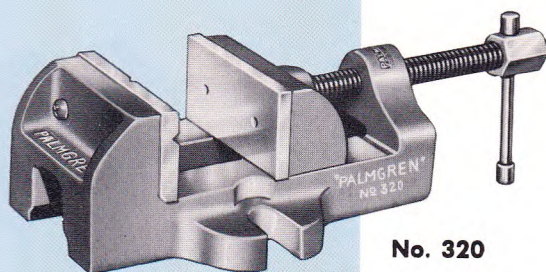


No. 410

SWIVEL MACHINE VISES

These durable vises are accurately machined of high grade iron castings, with ground steel jaws to stand hard usage. The body jaw-plate is extra heavy steel with one horizontal and one vertical groove. The steel lead screw has precision cut Acme thread, with extra long thread bearing in body. The swivel base provides complete rotation to any horizontal angle, it is graduated the full 360° for convenience. Two body bolts and steel swivel plate provide positive locking of body at required angle setting. The base has $\frac{5}{8}$ " keyway and two bolt slots for locating and mounting on machine table.

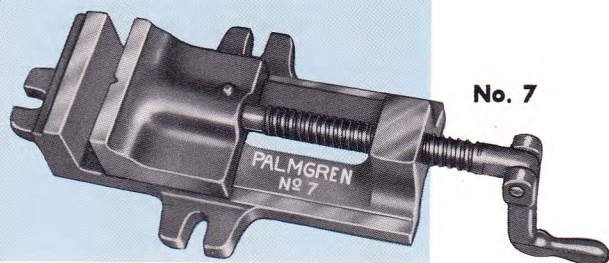
An excellent vise for milling, grinding, drilling and tapping operations.



No. 320

No. 120 and No. 320 DRILL PRESS VISES

A handy general purpose vise that every shop needs. It is highly recommended for use on drill presses, milling machines, grinders and many other machines. It has strong fine thread adjusting screw, steel jaws grooved for convenience in holding round pieces. Lugs are provided on sides for bolting vise to machine table.

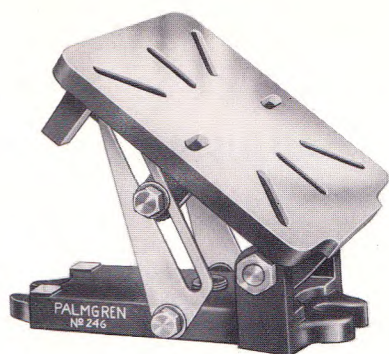


No. 7

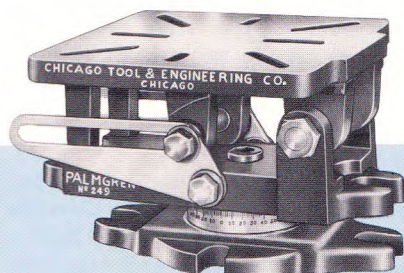
UTILITY VISES

This is a sturdy, compact vise, designed for easy setups which would ordinarily require costly jigs and fixtures. Milling, drilling, grinding are but a few jobs that can be done with this Vise. The movable jaw is grooved vertically for holding work. The vise is low-built — only 2½" overall height. The heavy steel adjusting screw has a coarse pitch Acme thread for fast action. Three bolt lugs are located on the vise base for mounting on the machine table.

Vise No.	Width Jaws	Depth Jaws	Opening Jaws	Length Overall	Height Overall	Weight	Net Weight with Base	Net Price	Net Price with Base
310	3"	1½"	3"	9"	3¾"		11 lbs.		\$39.95
410	4"	1¾"	4"	11¾"	4⅞"		23 lbs.		49.95
610	6"	2"	6"	14½"	5¾"		50 lbs.		69.95
120	1½"	1"	1½"	4½"	1¾"	3 lbs.		\$11.95	
320	3"	1½"	3"	8"	2¾"	8 lbs.		13.95	
7	3½"	1¾"	4"	14"	2½"	13 lbs.		22.95	



No. 246

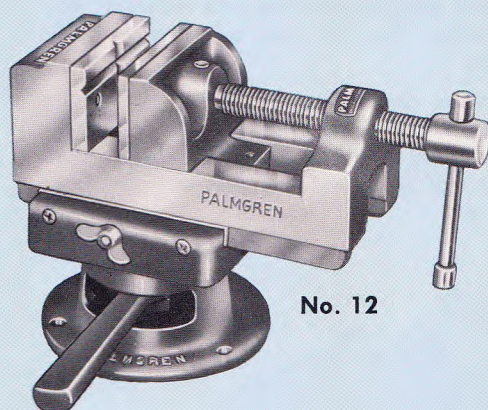


No. 249B

ADJUSTABLE ANGLE PLATES

These angle plates are especially useful for irregular shape parts that cannot conveniently be held in a vise. There are eight bolt slots for holding the work piece. Very adaptable for milling, grinding, drilling and tapping. Graduations on angle plates provide quick reading and setting at any angle from 0° horizontal to 90° vertical. Precision drilled and reamed for hinge pin to give smooth movement without lateral play. Angle plates can be used with or without swivel base. When used with swivel base, which is graduated full 360°, complete rotation is provided for positioning as required.

No.	Top Size	Base Length	Height Plate and Plate	Plate Only		Plate No.	Plate with Base	
				Weight Lbs.	Net Price		Weight Lbs.	Net Price
246	6" x 6"	8"	4 5/8"	9	\$17.95	246B	12	\$24.90
249	9" x 9"	12 1/2"	6 3/4"	29	39.95	249B	35	46.95



No. 12

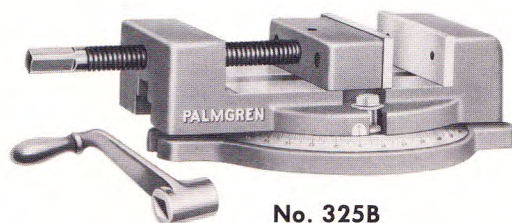
BENCH DRILL PRESS VISES

Here's a handy dual purpose vise that can be used on bench or drill press without removing work from the vise. The vise body is square all around and can be used on either side, on end, or in horizontal position. It is furnished with dovetail slots on either side which slide into the bench base adapter. The vise may be locked in position in the adapter by tightening thumb screw which forces a steel gib against the vise dovetail. The vise and adapter assembly can be rotated and locked in any position on the bench swivel base by using the cam lever which is easily locked and released.

Vise No.	Width Jaws	Depth Jaws	Opening Jaws	Kind of Jaws	Weight Lbs.	Net Price
12	2 1/2"	1"	2 1/2"	Plain-Grooved	11	\$29.95
18	4"	1 3/4"	4"	Plain-Grooved	29	49.95

NEW "LOW-BOY" SWIVEL MACHINE VISES

These rugged heavy duty vise are designed for applications where low overall height is necessary. With the swivel base these vise are only 3 1/8 inches and 3 3/8 inches in height. Used on drill press, milling machines, grinder, and shapers. Completely rotatable with swivel base graduated full 360°. Two screws and swivel plate securely lock the vise at any position as required. The vise can be removed and used without swivel base. For locating and mounting on machine table the base has 5/8" keyway and two bolts slots. Lead screws have precision cut Acme thread. Castings are high strength grey iron, accurately machined. Both the body and follower are equipped with ground steel jaw plates. These durable vise are available in two sizes.



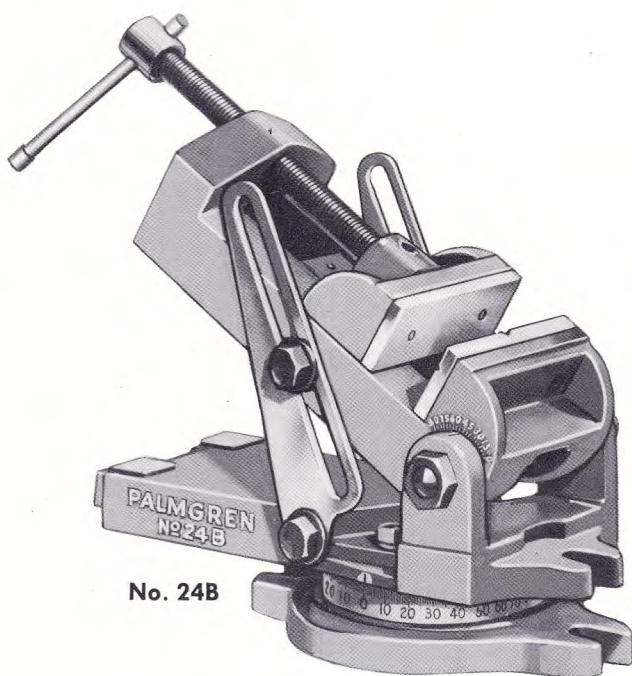
No. 325B

Vise with Swivel Base						Vise Only		
Vise No.	Width Jaws	Depth Jaws	Opening Jaws	Weight Lbs.	Net Price	Plate No.	Weight Lbs.	Net Price
325B	3 1/4"	1 1/8"	3"	13 1/4	\$44.95	325	9 1/2	\$37.95
425B	4 1/2"	1 1/4"	4"	21	54.95	425	15 1/2	45.95

ADJUSTABLE ANGLE VISES

These sturdy angle vise are indispensable where work frequently requires angle setups for drilling, tapping, milling, and grinding.

The body is calibrated for quick and accurate setting at any required angle from 0° horizontal to 90° vertical. Securely locked at required angle with four screws and two side plates. The swivel base provides complete rotation and is calibrated full 360°. Swivel base can be removed from the angle base. Castings are selected fine grain, high strength grey iron, accurately machined. Hinge pin hole is precision drilled and reamed for smooth accurate angle settings, no lateral end play. Bases have 5/8" keyway and two bolt slots for locating and mounting on machine table.



No. 24B

HEAVY DUTY ADJUSTABLE ANGLE VISES

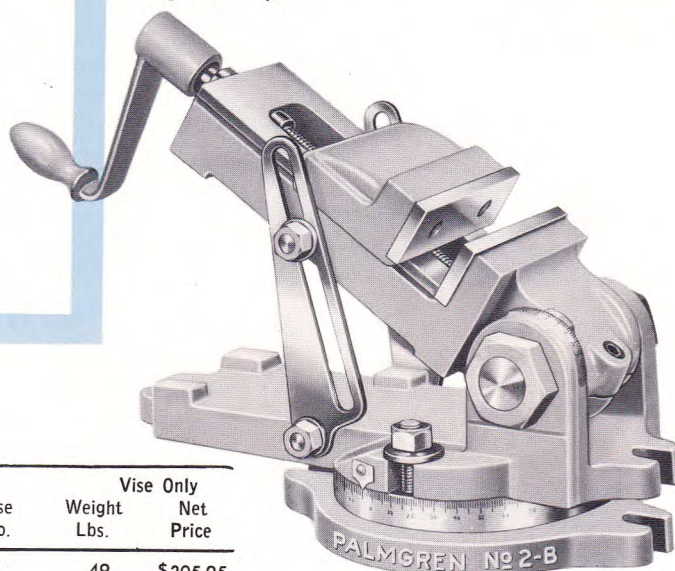
These Palmgren Heavy Duty Vises with extra heavy construction are manufactured to provide accuracy and durability. They assure accurate quick angular set-ups without using blocks or wedges.

The oversize lead screws have precision cut Acme thread, and removable thrust bushings. The two ground steel jaw plates are removable. Vises can be raised to any angle from 0° horizontal to 90° vertical, and securely locked at required angle by four cap screws and the two side plates.

The angle base hinge boss is graduated from 0° to 90° for easy direct reading. Oversize hinge pins give smooth action and stability. Angle base has 11/16" keyways and four bolt slots.

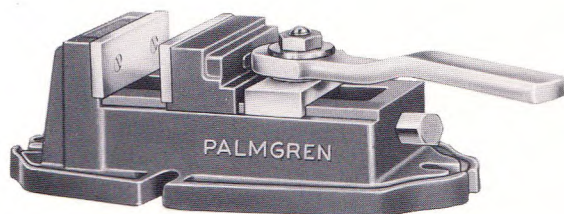
The removable swivel base is graduated full 360° for complete rotation. Two bolts provide for secure locking of vise at any desired position. The swivel base also has 11/16" keyways and two bolt slots for locating and mounting on machine table. The vise can be used without swivel base.

These vises are especially suited to heavy drilling, tapping, boring, milling, and grinding operations. They are indispensable time-saving equipment for work which frequently involves angle set ups.



No. 2B

Vise No.	Width Jaws	Depth Jaws	Opening Jaws	Vise with Swivel Base		Vise No.	Vise Only	
				Weight Lbs.	Net Price		Weight Lbs.	Net Price
2B	4"	1½"	4"	59	\$ 226.95	2	49	\$205.95
3B	6"	2"	6"	130	279.95	3	115	249.95
4B	8"	2¼"	8"	231	399.95	4	190	349.95
Vise No.	Width Jaws	Depth Jaws	Opening Jaws	Length Overall	Height Overall	Weight with Base	Net Price	
23B	3"	1¾"	3"	12"	5¼"	22	\$46.95	
24B	4"	1¾"	4"	12¾"	5½"	36	52.95	



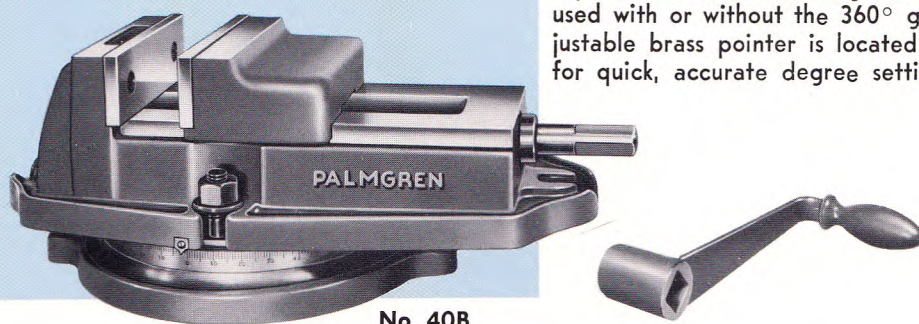
No. 404

No. 404 PRODUCTION VISE

The new Palmgren fast mechanical action production vise is durable, precision machined equipment. Especially suited for drill press, tapping, milling machine, grinding, and other production operations.

Designed for long, trouble free operation, with no valves, fittings, or hoses to maintain. The stationary jaw is cast as an integral part of the rugged cast iron body. Both the stationary and movable jaw are drilled and tapped for mounting of special jaws to suit the work piece.

The cam lock handle and other operating parts are hardened steel. The 90° swing of handle locks and retracts moving jaw 3/8" for loading and unloading. An adjusting screw positions the handle stud block and movable jaw to required setting for size of the production part to be run.



No. 40B

HEAVY DUTY MACHINE VISES

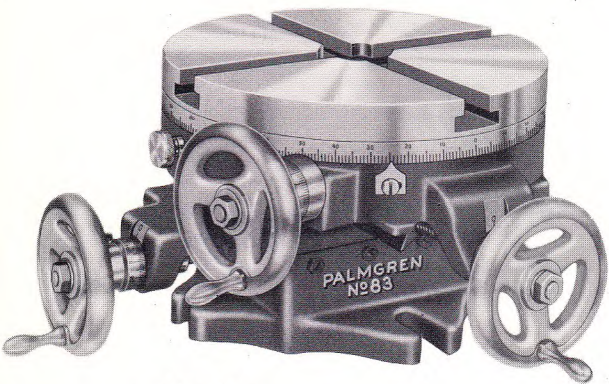
Palmgren 40B, 60B, and 80B Heavy Duty Vises are built for production, tooling, and maintenance. The jaw opening of each vise equals or exceeds the jaw width; removable steel jaw plates are machined and ground.

The flanged base on each vise provides a deep coolant trough which drains at front and back. Four bolt lugs, as well as a keyway and keys, are furnished on the vise base. The swivel base is equipped with 2 bolt lugs, as well as keyway and keys. The Acme thread adjusting screw is equipped with replaceable screw bushing and collar. Each vise may be used with or without the 360° graduated swivel base. An adjustable brass pointer is located on the vise base to provide for quick, accurate degree setting.

Vise No.	Jaw Width	Jaw Depth	Max. Opening	Overall Height	Overall Length	Overall Width	Keyways	Bolt Slots	Weight Lbs.	Net Price
404	4"	1½"	3½"	4"	13¼"	6¼"	11/16" x 1/8"	5/8"	28	\$119.95

Vise No.	Width Jaws	Depth Jaws	Opening Jaws	Vise with Swivel Base Weight Lbs.	Vise with Swivel Base Net Price	Vise No.	Vise Only Weight Lbs.	Vise Only Net Price
40B	4"	1½"	4"	44	\$ 99.95	40	34	\$ 83.95
60B	6"	2"	6"	101	139.95	60	77	109.95
80B	8"	2¼"	8"	165	249.95	80	140	199.95

No. 6H Crank Handle for 4" Vise Wt. 1½ lbs.....\$6.95
 No. 10H Crank Handle for 6" Vise Wt. 2 lbs..... 8.10
 No. 14H Crank Handle for 8" Vise Wt. 2½ lbs..... 9.95



No. 83

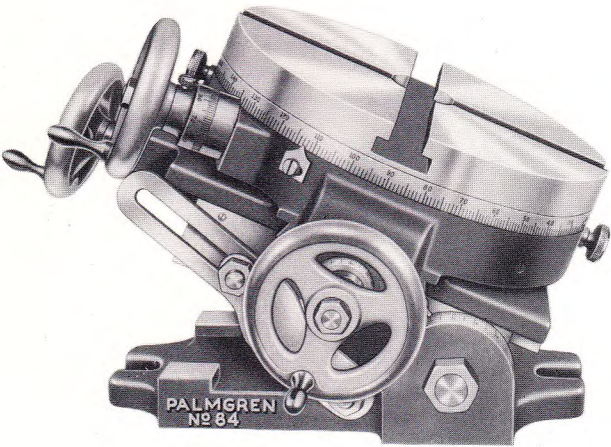
No. 83 ROTARY INDEXING TABLE

This versatile table has worm and gear feed for indexing, lateral feed screw, and transverse feed screw.

The top has 1 5/8" diameter counterbore, and two 5/8" x 1", T-slots at 90°. The rotary index shaft has a dial collar calibrated for direct reading to 1/20 degree (3 min.). The lateral and transverse feed shafts have collars graduated for direct reading at intervals of .001 inch. All collars have thumb screw to permit setting to "0" or any convenient reading at start of work. Both lateral and transverse feeds have 4 1/4" travel — the slide-ways have steel gibs with adjusting screws for adjustment and take up. Worm and gear can also be adjusted to compensate for wear.

The base has 5/8" keyway and four bolt slots for locating and mounting on machine table. For milling, grinding, drilling, and tapping operations. This table is indispensable where work frequently requires indexing. Precision made, carefully assembled and inspected to maintain Palmgren superior quality thru out.

Table No.	Table Diameter	Height Overall	Top Grad.	Base	Base Diameter	Base Bolt Center	Dials	Gear Ratio	Table T-Slots	Base Keyway	Weight Lbs.	Net Price
82	8"	5 1/8"	360°	6 1/2" x 7 1/2"			1"		5/8"	5/8"	31	\$ 84.95
83	8"	5 1/8"	360°	6 1/2" x 7 1/2"			1" 1 3/4"	40-1	5/8"	5/8"	35	109.95
84	8"	5 11/16"	360°	5" x 9 3/4"			1" 1 3/4"	40-1	5/8"	5/8"	41	139.95
86	8"	3 1/4"	360°		9 1/4"	10 1/2"	1 3/4"	40-1	5/8"	5/8"	28	99.95
862-8	8"	3 1/2"	360°	9" x 11 1/2"			1 3/4"	40-1	5/8"	5/8"	32	129.95
1862-10	10"	3 1/2"	360°	9" x 11 1/2"			1 3/4"	40-1	5/8"	5/8"	36	159.95



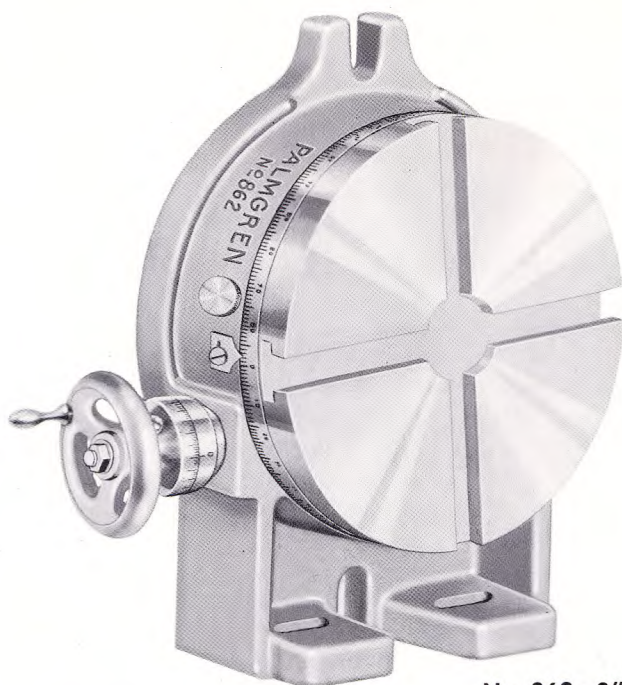
No. 84

No. 84 ROTARY TILTING INDEXING TABLE

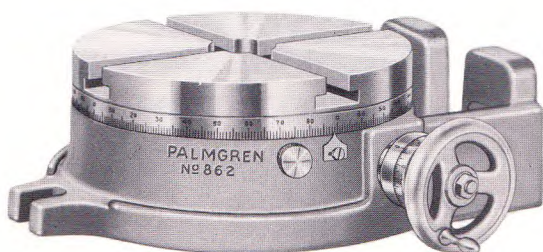
This completely adaptable table features index feed and gear, lateral feed screws, transverse feed screw, plus, an adjustable angle base for setting table from 0° horizontal to 90° vertical. For convenience the hinge boss of base is graduated 0° to 90° for direct reading.

This table also has the same high quality specifications for the index feed, lateral feed, transverse feed and table top.

Where the work frequently requires angle setting this table is essential equipment for fast, accurate setups. It is easily mounted on drill press, milling machine, or grinder. Can be raised, lowered and indexed without removing work-piece.

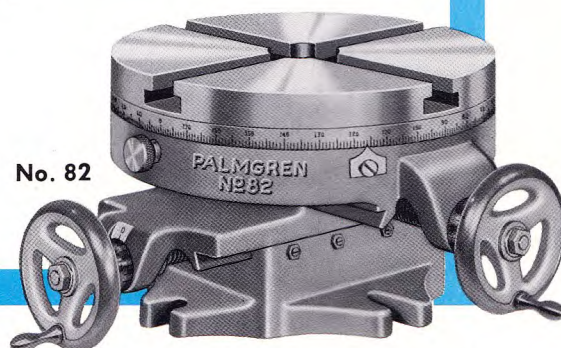

No. 862-8"

No. 1862-10" Top not illustrated


No. 862-8"

No. 86 PLAIN ROTARY TABLE

This useful item of equipment can be used on drill press, milling machine, grinder or shaper. The low overall height of 3 $\frac{3}{8}$ " makes it very compact and adaptable. The top has 1 $\frac{1}{8}$ " diameter center counter-bore and two T-slots ($\frac{5}{8}$ " x 1") at 90°. Precision cut worm and gear provide index feed. These are adjustable for wear to maintain smooth turning and minimum backlash. Index feed shaft has dial collar graduated for direct reading to 1/20 degree (3 min.) with thumb screw to permit setting to "0" at start of work. The circumference of top is calibrated to 1° increments, with an adjustable pointer for easy reading. The base has $\frac{5}{8}$ " keyway — two keys, and two bolt slots for locating and mounting on machine table.


No. 86

No. 82

No. 82 DUAL FEED ROTARY TABLE

This useful table has lateral feed screw, transverse feed screw, and rotatable top. This top is easily moved by hand to desired position and then locked with two clamps. The top has two $\frac{5}{8}$ " x 1" T-slots — 1 $\frac{1}{8}$ " diameter center counter bore — with circumference calibrated in

VERTICAL, HORIZONTAL INDEX TABLES

These new Palmgren indexing tables provide the added features of use in vertical position. Available in two sizes.

Where work frequently requires accurate indexing, they are an indispensable item of shop equipment. Quick accurate set-ups for: boring, drilling, reaming, tapping, grinding, and milling operations.

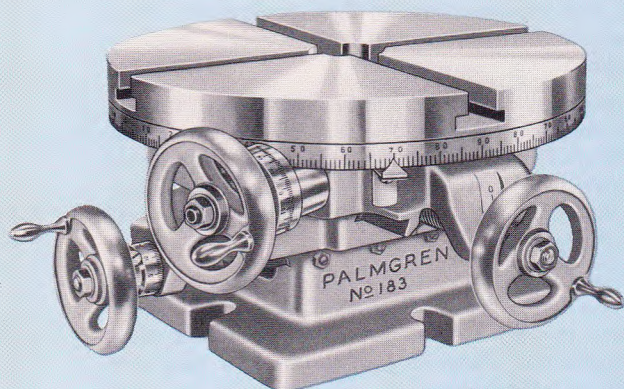
Both 8 inch and 10 inch diameter tops have two $\frac{5}{8}$ " x 1" T-slots for work-holding. The rim of the top is precisely calibrated in 1° increments, and adjustable pointer is provided on the body. The dial collar on indexing crank shaft is graduated to 1/20 degree (3 min.) for direct reading.

A thumb screw permits setting this dial to 0° or any convenient reading at the start of work. Two thumb screw clamps secure the top without vibration or chatter during work operations. Precision cut worm and gear are used for indexing mechanism.

The base is provided with two bolt slots for both horizontal and vertical mounting on machine table. The dual position mounting, makes these tables exceptionally adaptable for many uses.

No. 346 Index attachment can be used with these tables.

one degree increments for direct reading. The lateral and transverse feeds have same features and specifications as the No. 83. The base has $\frac{5}{8}$ " keyway and four bolt slots for mounting on machine table, for milling, grinding, drilling, and tapping. This table is useful and essential where work does not require rotary indexing feed.



No. 183

No. 183 ROTARY TABLE with INDEX FEED

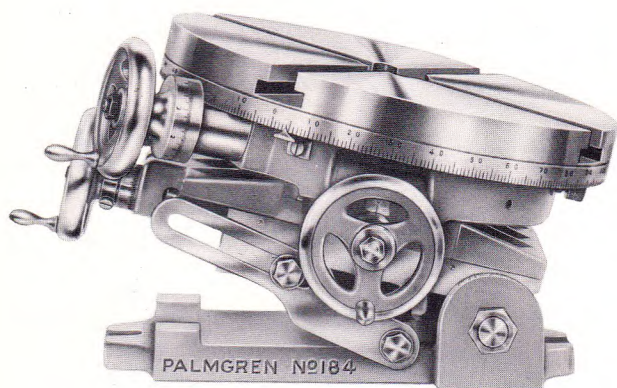
This table is completely versatile with lateral feed, cross feed, and indexing feed. It has a multiple of essential uses for boring, milling, grinding, drilling and tapping operations.

Rotary feed or indexing is by means of adjustable worm and gear. A dial collar on worm shaft is graduated to $1/20^\circ$ (3 min.) increments. The rim of the 10 inch diameter table is calibrated 1° intervals, $0^\circ - 90^\circ - 0^\circ$, etc. The top has $5/8$ " counterbore center, and two T-Slots $5/8$ " x 1".

Precision cut Acme thread screws are used for both the lateral and cross feeds, with overall travel of $4\frac{1}{4}$ inches for each. The graduated collars on these feed screw shafts are graduated to .001 inch increments for direct reading. A thumb screw permits setting of collars at "zero" or any convenient reading at the start of work. The feed slideways have adjustable steel gibs to maintain accuracy and smooth operation.

The base has four bolt slots and a $5/8$ " keyway for location and mounting on machine table.

**TABLES OF OTHER TYPES AND SIZES FOR SPECIAL APPLICATION MANUFACTURED TO FIT THE JOB.
SUBMIT SPECIFICATIONS AND PRINTS FOR QUOTATION.**



No. 184

No. 184 ROTARY TABLE

The No. 184 Table is an extremely versatile tool that incorporates the rotary and dual cross feed of the No. 183 with the new Palmgren 0° to 90° adjustable tilting feature. This universal table is ideal for all angle milling, grinding, shaping, tapping, and drilling operations, as well as layout work.

The table top is 10" diameter and two $5/8$ " x 1" x $5/16$ " T-slots cross at center. The center is bored $1\frac{1}{8}$ " diameter to depth of T-slot for centering plug.

Rotary feed is positive and worm gear ratio is 40:1. The worm and gear may be adjusted for wear. The rotary dial is $1\frac{3}{4}$ " diameter, calibrated in 3 minute intervals.

The No. 346 Palmgren Indexing Attachment can be quickly attached to the rotary feed shaft.

No. 186 ROTARY INDEXING TABLE

The No. 186 is an accurate rugged table. A very compact low unit 3 $\frac{3}{8}$ " overall height.

The 10 inch diameter top has 1 $\frac{5}{8}$ inch diameter center counterbore with two $\frac{5}{8}$ " x 1" T-Slots at 90°. The rim is calibrated to one (1) degree increments.

Precision cut worm and gear are used for the rotary index feed. The dial collar on worm shaft is 1 $\frac{3}{4}$ " diameter and calibrated at 1/20 degree (3 min.) intervals for direct reading. Take-up adjustment is provided to maintain free turning with minimum back lash.

The base has two bolt slots and $\frac{5}{8}$ " keyway for location and mounting.

This superior quality table is essential equipment for work which requires accurate convenient indexing.



No. 186

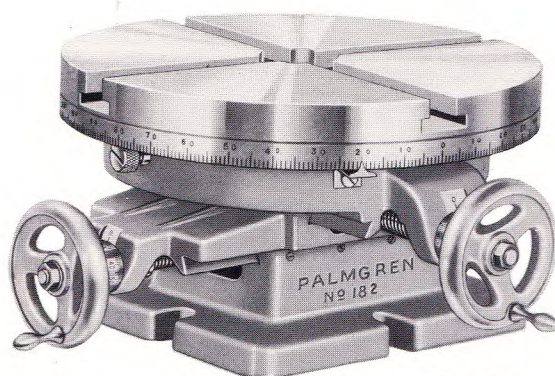
No.	Table Diameter	Height Overall	Top Grad.	Base	Base Keyway	Base Diam.	Base Bolt Centers	Gear Ratio	Table T-Slots	Weight Lbs.	Net Price
182	10"	5 $\frac{5}{8}$ "	360°	7 $\frac{5}{8}$ " x 6 $\frac{3}{8}$ "	$\frac{5}{8}$ "		6 $\frac{7}{8}$ " x 5 $\frac{5}{8}$ "	40:1	$\frac{5}{8}$ "	45	\$129.95
183	10"	5 $\frac{5}{8}$ "	360°	7 $\frac{5}{8}$ " x 6 $\frac{3}{8}$ "	$\frac{5}{8}$ "		6 $\frac{7}{8}$ " x 5 $\frac{5}{8}$ "	40:1	$\frac{5}{8}$ "	48	169.95
184	10"	5 $\frac{3}{4}$ "	360°	5" x 9 $\frac{3}{4}$ "	$\frac{5}{8}$ "		8"	40:1	$\frac{5}{8}$ "	50	199.95
186	10"	3 $\frac{3}{8}$ "	360°	5" x 9 $\frac{3}{4}$ "	$\frac{5}{8}$ "	9 $\frac{1}{4}$ "	10 $\frac{1}{2}$ "	40:1	$\frac{5}{8}$ "	35	139.95

No. 182 ROTARY TABLE

The Palmgren No. 182 table has 10" diameter top and has many uses on drill press, milling machine, or grinder. The table top can be freely turned in either direction and locked in desired position by two clamps with thumb screws. The top has 1 $\frac{5}{8}$ " diameter counter-bored center pilot, and two $\frac{5}{8}$ " x 1" T-Slots. The rim is graduated in 1° increments for convenient setting.

Precision cut Acme thread screws with brass adjustable thrust collars are used for the lateral feed and cross feed. The reading dial collars on these are calibrated to .001". Overall travel is 4 $\frac{1}{4}$ " for both feeds. The feed slideways have adjustable steel gibs to maintain accuracy and smooth operation.

This is a versatile unit for boring, milling, grinding, drilling, and tapping operations where work does not require rotary index feed. The base has four bolt slots and a $\frac{5}{8}$ " keyway for location and mounting on machine table.



No. 182

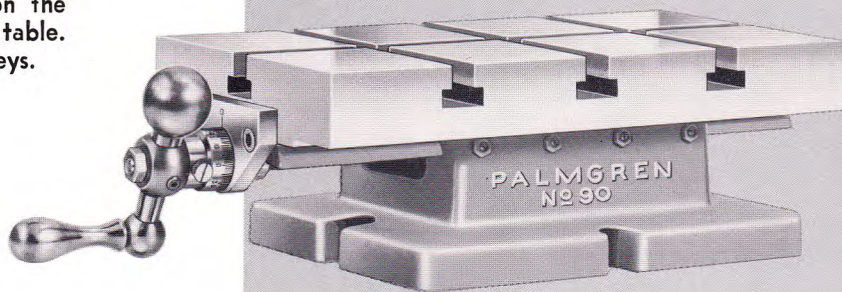
No. 92 DUAL CROSS SLIDE MILLING TABLE

Accurate milling on drill presses is assured with the new No. 92 Dual Cross Slide Milling Table.

The new Palmgren No. 92 can be furnished with 10" x 6", or 12" x 6" table top surface. Either size has one longitudinal T-slot and three equally spaced cross slots. On the 10" table, transverse is 4½" and longitudinal travel is 6". Transverse travel on the 12" table is also 4½" but longitudinal travel is 8". Easy to read dials are 1¼" diameter, graduated in thousandths. Base has four mounting slots and ⅝" keys and keyways.

No. 90 SINGLE CROSS SLIDE MILLING TABLE

Ideal for milling or grinding operations which require only one feed. Accurately machined, T slotted table surfaces of 10" x 6", and 12" x 6". Acme thread feed screw with balanced crank. Large, easy to read dial graduated in thousandths. 6" travel on the 10" table, and 8" travel on the 12" table. Has 4 bolt slots and ⅝" keyways and keys.



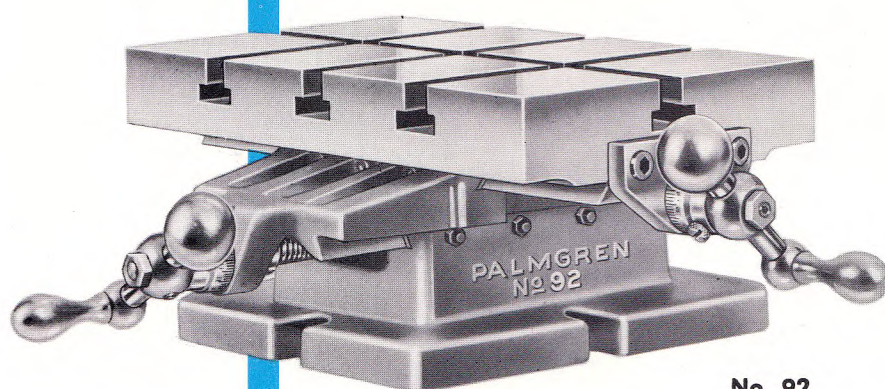
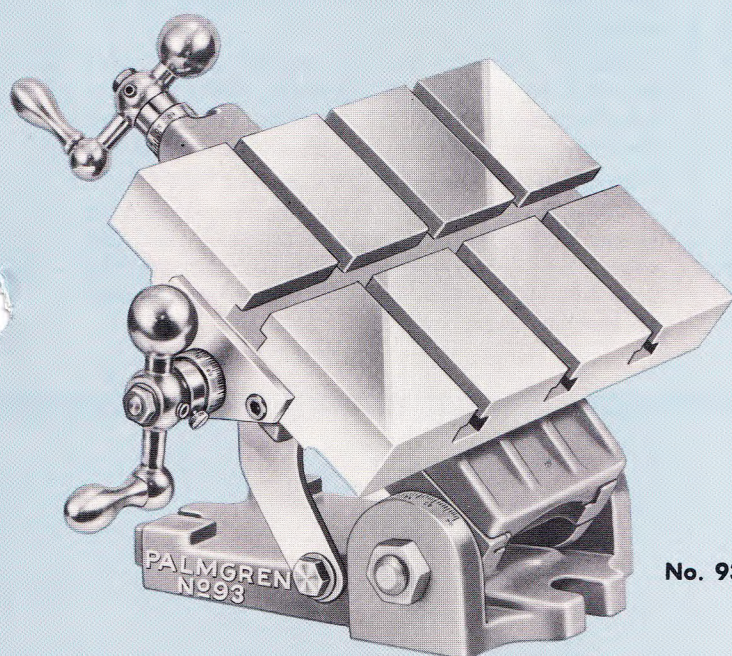
No. 90

No. 91 TILTING SLIDE MILLING TABLE

Provide tilting feature in addition to single slide travel. Angle base graduated for easy reading. Table can be set and securely locked at any position 0° to 90°. Table surfaces of 10" x 6", or 12" x 6".



No. 91


No. 92

No. 93

No. 93 TILTING CROSS SLIDE MILLING TABLE

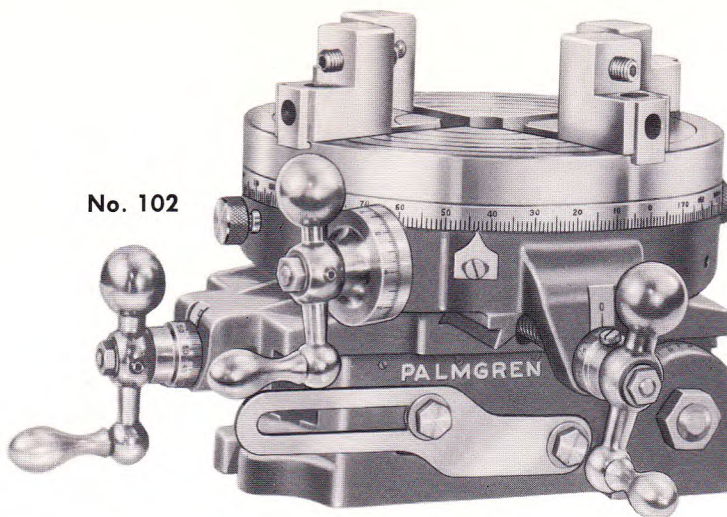
Ideal for use on milling machines, drill presses, and grinders, also for layout and inspection work. Transverse and longitudinal slide travel combined with tilting feature.

Acme thread feed screws equipped with adjustable brass bushing nuts to provide ease of travel to suit operation and material. Large easy to read dials are graduated in thousandths. Slides equipped with adjustable steel gibs for sustained accuracy and minimum wear.

No.	Table Size	Base Size	Travel	Keyways and T-Slots	Angle Base Graduations	Overall Height	Weight Lbs.	Net Price
90-10	10" x 6"	7 $\frac{5}{8}$ " x 6 $\frac{3}{8}$ "	6"	$\frac{5}{8}$ " - $\frac{7}{16}$ "		3 $\frac{1}{2}$ "	28	\$119.95
90-12	12" x 6"	7 $\frac{5}{8}$ " x 6 $\frac{3}{8}$ "	8"	$\frac{5}{8}$ " - $\frac{7}{16}$ "		3 $\frac{1}{2}$ "	33	129.95
91-10	10" x 6"	9" x 5"	6"	$\frac{5}{8}$ " - $\frac{7}{16}$ "	0°—90°	3 $\frac{3}{4}$ "	35	139.95
91-12	12" x 6"	9" x 5"	8"	$\frac{5}{8}$ " - $\frac{7}{16}$ "	0°—90°	3 $\frac{3}{4}$ "	38	149.95
92-10	10" x 6"	7 $\frac{5}{8}$ " x 6 $\frac{3}{8}$ "	6" x 4 $\frac{1}{2}$ "	$\frac{5}{8}$ " - $\frac{7}{16}$ "		4 $\frac{3}{8}$ "	35	159.95
92-12	12" x 6"	7 $\frac{5}{8}$ " x 6 $\frac{3}{8}$ "	8" x 4 $\frac{1}{2}$ "	$\frac{5}{8}$ " - $\frac{7}{16}$ "		4 $\frac{3}{8}$ "	40	169.95
93-10	10" x 6"	9" x 5"	6" x 4 $\frac{1}{2}$ "	$\frac{5}{8}$ " - $\frac{7}{16}$ "	0°—90°	4 $\frac{5}{8}$ "	40	189.95
93-12	12" x 6"	9" x 5"	8" x 4 $\frac{1}{2}$ "	$\frac{5}{8}$ " - $\frac{7}{16}$ "	0°—90°	4 $\frac{5}{8}$ "	43	199.95

No. 102

Reversible jaws for internal or external holding



No. 102 ROTARY, TILTING and DUAL FEED TABLE

This completely versatile table provides multiple usage for: boring, milling, grinding, drilling and tapping operations. For accurate angle work it is essential equipment.

The No. 102 features; rotary feed and indexing thru a worm and gear, with dial calibrated to 1/20 degree (3 min.) and the table top graduated 0° - 90° - 0°, etc., for direct reading. Two cross feeds, with dial collars graduated to .001" for accurate feed with 4 1/2 inch travel both lateral and transverse. The angle base is graduated to provide for quick, positive angle setting from 0° to 90° ver-

tical. Base has 5/8 inch keyway for locating on machine table.

The 8" diameter top has a 1 5/8" center pilot counterbore and two 5/8" keyways. These keyways have tapped holes at 1/2" intervals. Four jaws are furnished which can be individually located in the keyways to suit the work piece to be clamped.

Slides have adjustable steel gibs, the Acme feed screws have adjustable brass thrust collar, and the rotary feed worm and gear can be adjusted. The base has 5/8" keyway to assist in positive location on machine table.

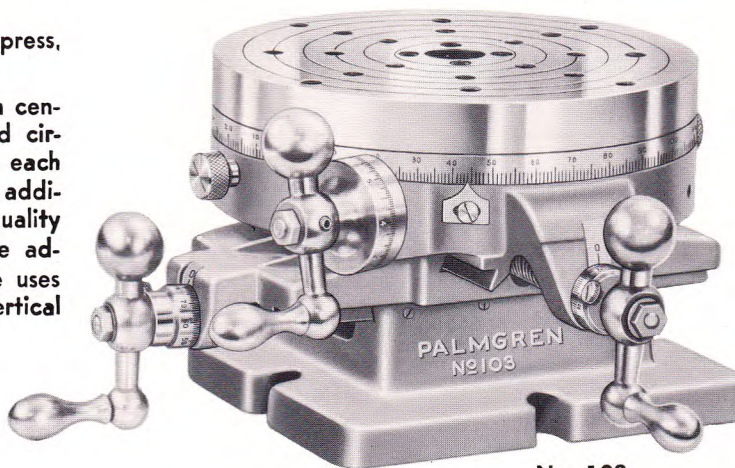
No. 103 ROTARY DUAL FEED TABLE

This compact sturdy table has an overall height of just 5 1/4 inches.

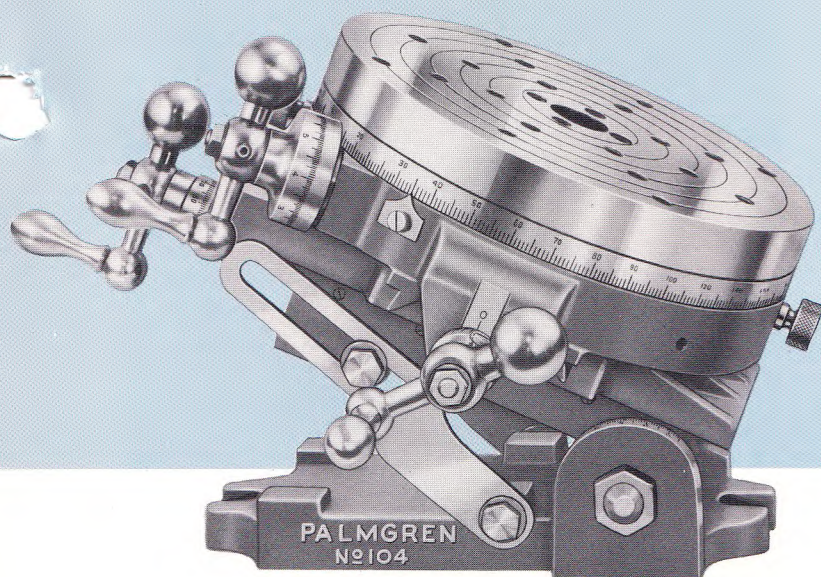
The No. 103 is invaluable for accurate work which requires rotary indexing calibrated to 1/20 degree, with lateral and transverse spacings to 1/1000 inch.

It is essential equipment for use on drill press, milling machines, grinders, and shapers.

The 8 inch diameter top has a one inch center pilot hole, with five concentric scribed circles, and four tapped holes at 90° on each circle to locate and hold work piece. In addition this table has the same features and quality as the No. 104, except the vertical angle adjustment. Extremely versatile, with multiple uses for all applications and work where vertical angle adjustment is not required.



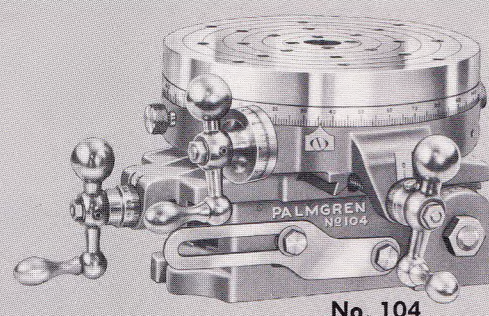
No. 103



No. 104

No. 104 ROTARY, TILTING CROSS SLIDE MILLING TABLE

Provides all of the feeds and positioning in universal milling machines. Has two cross slides, rotary feed, and 0° to 90° tilting adjustment. Get quick, accurate angle setups for milling, drilling, grinding, and also checking and laying out work. Rotary and cross slide adjustments are the same as the No. 102 table, and the top surface is tapped as a locator plate in the same manner as the No. 103.



No. 104

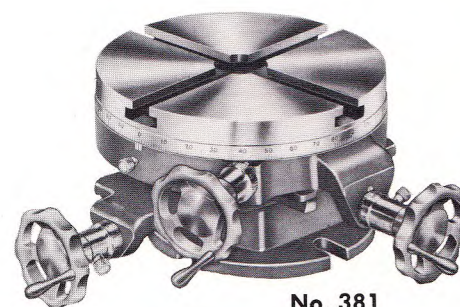
No.	Table Diameter	Height Overall	Top Graduation	Base Dimensions	Gear Ratio	Base Keyway	Weight Lbs.	Net Price
102	8"	7"	360°	9 3/4" x 5"	40:1	5/8"	48	\$279.95
103	8"	5 1/4"	360°	7 5/8" x 6 3/8"	40:1	5/8"	40	179.95
104	8"	5 3/4"	360°	9 3/4" x 5"	40:1	5/8"	44	229.95

No. 381 ROTARY TABLE

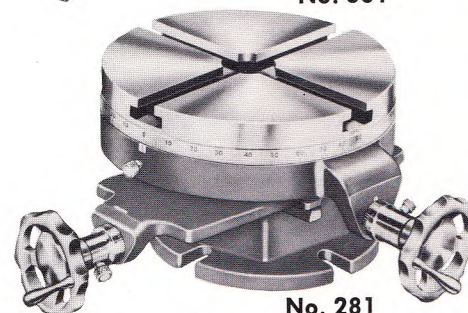
The No. 381 Palmgren Rotary and Cross Slide Milling Table has the universal features of the No. 83 Table, but at a fraction of the cost. Rotary feed is positive with 40:1 worm gear ratio. The worm and gear may be adjusted for wear. Table top is 8" diameter and may be locked in any position. The rotary dial is 1" diameter and is graduated in 15 minute intervals. Cross slide dials are 1" diameter, graduated in thousandths.

No. 281 CROSS SLIDE TABLE

The No. 281 Dual Cross Slide Milling Table is similar to the No. 82 Table, and may be used on milling machines, drill presses, grinders, or shapers. Table does not have a rotary feed, but the 8" diameter top may be turned freely 360° and locked in any position. Maximum travel of each slide is 4 1/4". Dials are 1" diameter graduated in thousandths.



No. 381



No. 281

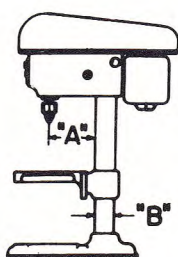
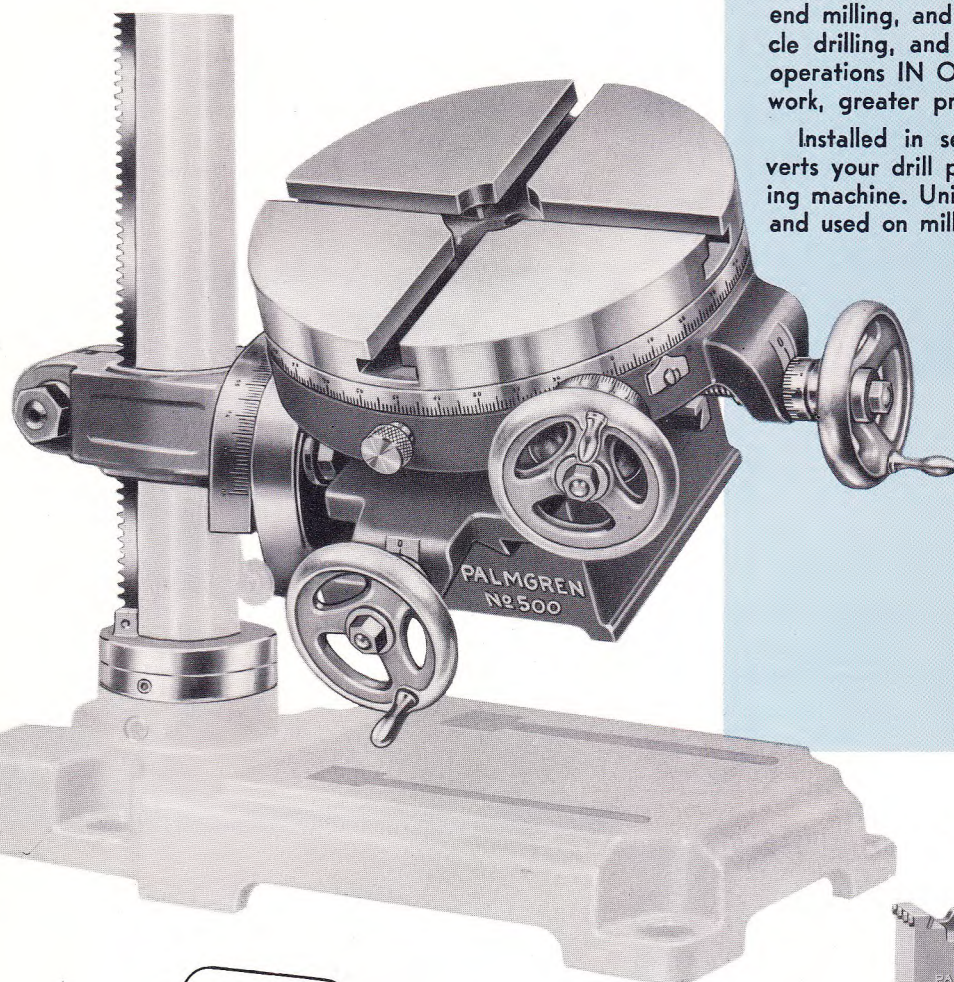
No.	Table Diameter	Height Overall	Base Diameter	Table T-Slots	Base Keyway	Weight Lbs.	Net Price
381	8"	5"	6 1/4"	5/8"	5/8"	33	\$99.95
281	8"	5"	6 1/4"	5/8"	5/8"	31	79.95

500 Series "ALL PURPOSE" DRILL PRESS TABLE

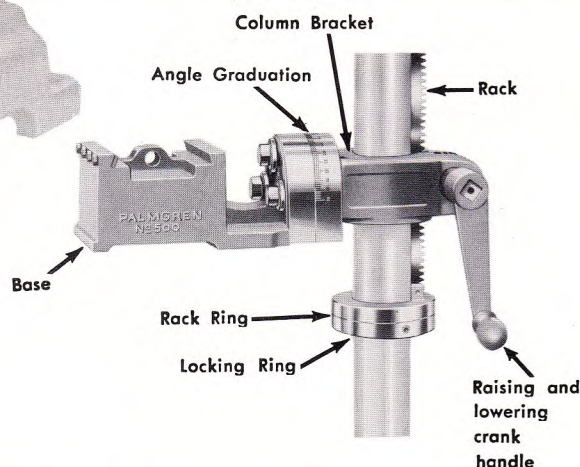
The new Drill Press Table has two cross slides, rotary feed, and tilting adjustment. One compact sturdy unit provides all the feeds and positioning found in universal milling machines.

Now you can perform milling operations on your drill press. With the new Palmgren Drill Press Table you can do such milling operations as T slotting, internal and external dovetailing, keyway cutting, end milling, and angle cutting, as well as bolt circle drilling, and engraving. Thousands of difficult operations IN ONE SETTING. Get more accurate work, greater production, and save setup time.

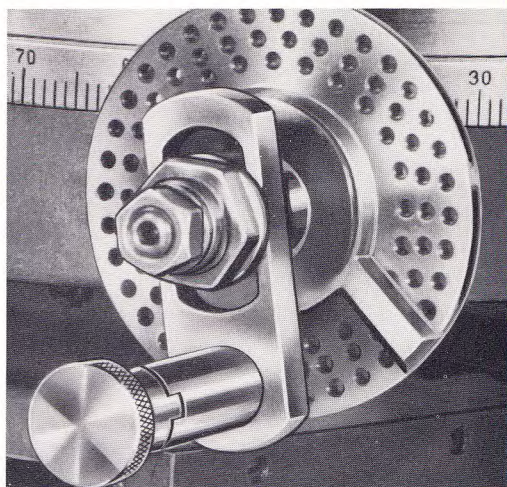
Installed in seconds, the Palmgren Table converts your drill press into an efficient, sturdy milling machine. Unit can be removed from drill press and used on milling machine or grinder.



When ordering, please specify column diameter and distance from spindle center to column.



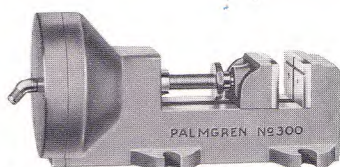
No.	Table Diameter	Top Graduated	Cross Feeds	Cross Feed Graduations	Rotary Feed Graduation	Gear Ratio	Table T Slots	To Fit Column Dia.	Weight Lbs.	Net Price
508-1	8"	360°	4 1/4"	Thousandths	3 Minutes	40:1	5/8"	1 1/2" to 2 3/4"	54	\$179.95
508-2	8"	360°	4 1/4"	Thousandths	3 Minutes	40:1	5/8"	3" to 4"	58	218.95
510-1	10"	360°	4 1/4"	Thousandths	3 Minutes	40:1	5/8"	1 1/2" to 2 3/4"	64	239.95
510-2	10"	360°	4 1/4"	Thousandths	3 Minutes	40:1	5/8"	3" to 4"	70	269.95



No. 346 INDEXING ATTACHMENT

For use with Nos. 83, 84 and 86 Tables, merely remove the rotary hand wheel and attach the Indexing Attachment. Furnished complete with two 2 3/8" diameter plates, each plate having 3 sets of holes which gives a wide range of divisions. No. 1 Plate has 36, 34 and 24 holes. No. 2 Plate has 40, 35 and 25 holes

Complete including plates . . . \$49.95



No. 300 AIR VISE

The Palmgren No. 300 Air Vise, with 3" jaws, is designed for all types of machining operations: light, medium, or heavy duty. Quick, easy set-ups for production milling, drilling, grinding, tapping, sawing and assembly.

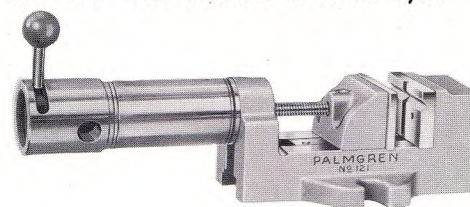
Foot pedal operation leaves both hands free to load and unload with speed.

Vise is supplied complete with foot pedal, air hose and fittings. Ground steel jaw plates are provided, one of which is V-grooved horizontally and vertically for holding round work. Can be easily removed to accommodate special jigs and fixtures.

Vise No.	Width Jaws	Depth Jaws	Opening Jaws	Length Overall	Weight Lbs.	Net Price
300	3"	1 3/4"	3"	13"	37	\$49.95

No. 121 AIR VISE

Designed for light drilling, milling, tapping and assembly, this vise is equipped with 1 1/8" dia. stainless steel air cylinder with adjustable stroke. Air cylinder and valve are combined in one compact unit.



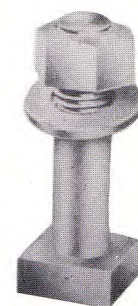
No.	Width Jaws	Depth Jaws	Opening Jaws	Height Overall	Length Overall	Weight Lbs.	Net Price
121	1 1/2"	1"	1 1/2"	1 3/4"	8"	4	\$24.95

No. 13 T-SLOT BOLTS

Each set consists of four T-Slot Bolts complete with nuts and washers. Specify size required

1/2—13 x 1 1/2"
1/2—13 x 2"

Price \$6.95 per set



No. 8 VISE JAW SET

Convenient Jaw Set for holding certain types of work.

1 adjustable and 1 fixed jaw complete with "T" slot bolts, washers and nuts.

Price \$8.95 per set



No. 46 ROTARY TABLE

The No. 46 Table is ideal on jobs in which overall height of work is critical. Many operations require a vertical fixture, which takes up too much of the limited distance between spindle and machine table. Only 2-3/16" high, the No. 46 Rotary Table provides the answer to these problem jobs.

The top diameter is 6", and two 3/8" x 5/8" T-slots cross at center. The center of the top is bored 5/8" diameter. The top is graduated 360°, and worm-gear ratio is 60-1 with positive rotary feed. The rotary dial is calibrated in 6 minute intervals. Maximum distance of projection of crank handle from center line is 7". The base is flanged and slotted for 3/8" bolts. Top may be locked by brass plug and thumb screw.



No. 46

No.	Top Diameter	Height Overall	Centers Base Bolt	Table T-Slots	Base Keyway	Weight	Net Price
46	6"	2 3/16"	6 1/4"	3/8"	7/16"	15 Lbs.	\$94.50



No. 901

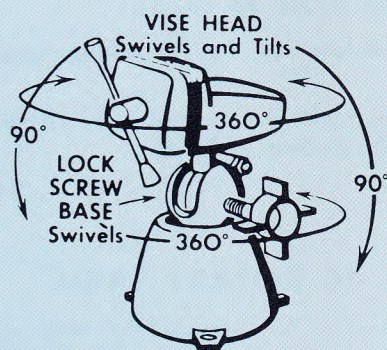
WORK HOLDER and POSITIONER

New Advanced Features ... Saves Time and Money!

Assembly, filing, fitting, soldering, drilling, tapping, welding, and checking are only a few of hundreds of operations performed daily with Palmgren Holders and Positioners.

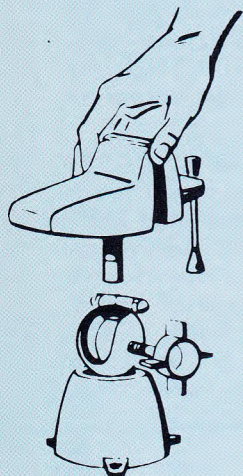
Used In All Industries . . . Everywhere. Palmgren Positioners save time, money and reduce operator fatigue.

Ideal for bench or conveyor assembly operations, rugged construction provides support for heavy pieces at any angle. Accessory items include bench clamp base, surface plates, end mount vise body, and circuit board holder.



Swings or swivels to any position. Tighten lock screw and vise is held at desired angle.

Extremely versatile. Vise assembly can be removed quickly and another fixture inserted in positioner base.



No.	Item	Weight	Price
900	Positioner Base	3½	8.95
901	Horizontal Mount Vise and Positioner Base	5	15.60
902	Vertical Mount Vise and Positioner Base	5	15.60
903	Horizontal Mount Vise Only	1½	9.95
904	Vertical Mount Vise Only	1½	9.95
909	10" x 10" Gray Iron Surface Plate, Plain	10	14.95
910	10" x 10" Gray Iron Surface Plate, Tapped	10	14.95
911	Bench Clamp, Only	5	6.45
912	Bench Clamp and Positioner Base	5	15.40
913	Bench Clamp, Positioner and Vertical Vise	12	22.05
914	Bench Clamp, Positioner and Horizontal Vise	12	22.05
915	Circuit Board Holder, Complete	1	12.95
916	10" Bar and Holder Arms Only	¾	5.50
917	Surface Plate, Positioner and Vertical Vise	15	30.55
918	Surface Plate, Positioner and Horizontal Vise	15	30.55
919	Board Holder and Positioner	5	21.90
920	Surface Plate, Positioner and Board Holder	15	36.85

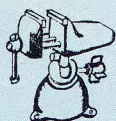
Vise has 2½" jaw width and opening.

FOR ASSEMBLY - TOOLING - PRODUCTION

Made of rugged, high pressure die-cast zinc and aluminum alloys
Reinforced with steel and brass parts for strength and durability
Semi-steel units also available with 3" and 4" jaws



No. 900



No. 901



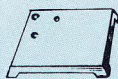
No. 902



No. 904



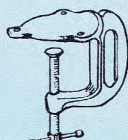
No. 903



No. 910



No. 909



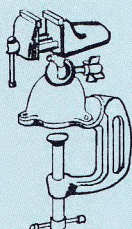
No. 911



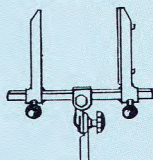
No. 912



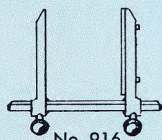
No. 913



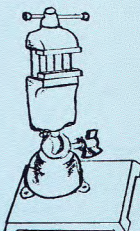
No. 914



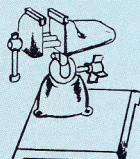
No. 915



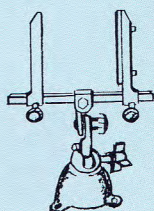
No. 916



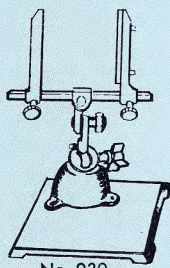
No. 917



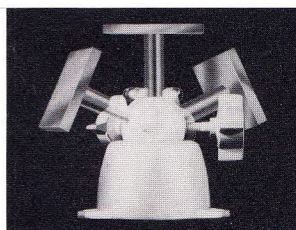
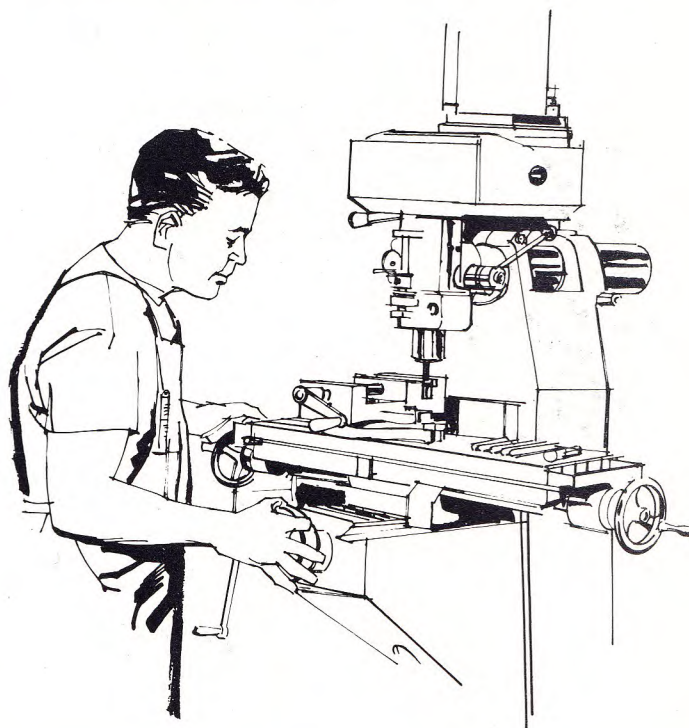
No. 918



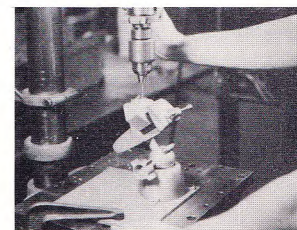
No. 919



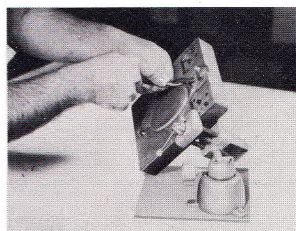
No. 920



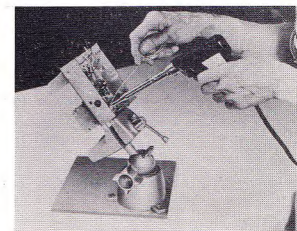
Any fixture with $\frac{5}{8}$ " diameter extension can be inserted in positioner base. Swing to desired angle and tighten lock knob. A matter of seconds!



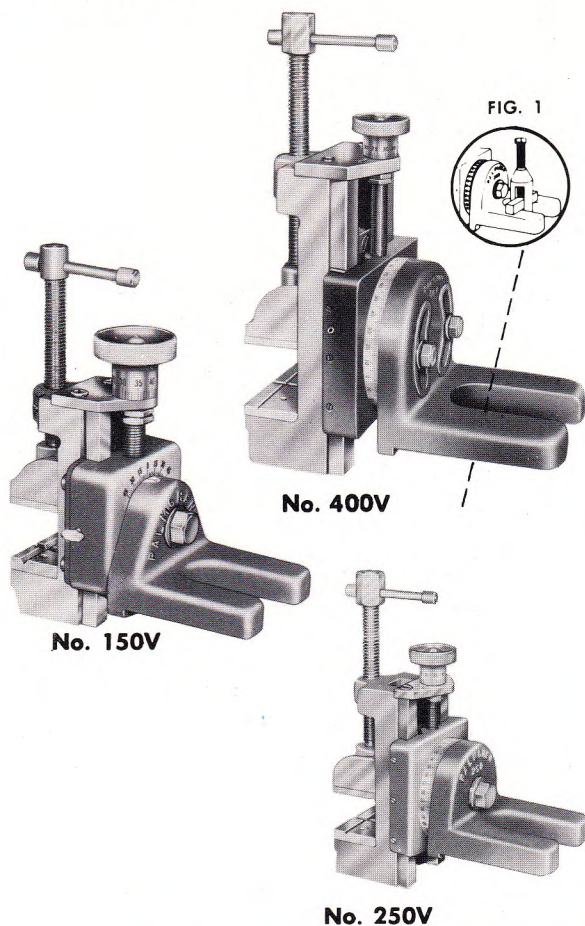
For drilling odd shaped parts, vise can be positioned and locked at any angle.



Suited for jig, fixture and die work, holds and supports heavy pieces at any angle.



Excellent holder and positioner for electronic, radio, laboratory and other fine work requiring speed and efficiency.



MILLING ATTACHMENTS For ENGINE LATHES

Converts Your Lathe for Milling in 10 Seconds

Palmgren Milling Attachments for engine lathes will enable you to do hundreds of milling operations on your lathe. You can mill slots, keyways, grooves, flats, squares, hexagons, octagons, external and internal dovetails, sawing, grinding and drilling at any angle.

The Milling Attachment is quickly and easily set up on your lathe in 10 seconds. To set up on your lathe, remove the tool post ring and set the "U" shaped base angle bracket around the tool post and tighten down just like an ordinary tool holder. See Fig. 1.

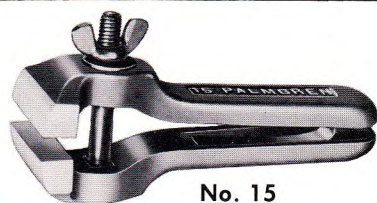
Graduated for rotation to any angle. Fits South Bend, Atlas, Logan, Sheldon, Craftsman, and other Lathes. Thousands now in use by all industries.

Nos.	Fits Tool Post Up To	Width Jaws	Depth Jaws	Opening Jaws	Weight Lbs.	Net Price
150V	1¼" dia.	1½"	1"	2¾"	4½	\$39.95
250V	1" dia.	2½"	1½"	2½"	11½	49.95
400V	2" dia.	4"	1¾"	4"	36	59.95

No. 15 ALUMINUM HAND VISE

This handy vise is an essential item for every tool box and work-bench. Holds small pieces for - drilling, filing, grinding, polishing, and hand tapping. All aluminum body and jaws, tempered steel spring holds jaws open to receive work piece.

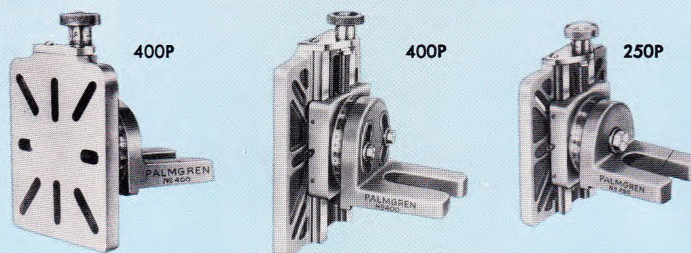
Vise No.	Width Jaws	Opening Jaws	Length Overall	Weight	Net Price
15	1½"	1"	5"	7 oz.	\$4.95

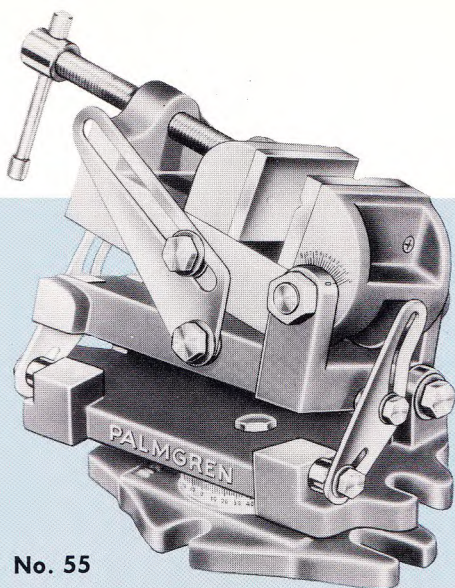


MILLING ATTACHMENTS for ENGINE LATHES

Palmgren Milling Attachments for engine lathes will enable you to mill slots, keyways, grooves, flats, squares; also drilling, sawing and grinding at any angle. Fits any lathe that has a tool post. Set up in 10 seconds.

No.	Fits Tool Post up to	Plate Size	Weight Lbs.	Net Price
250P	1¼"	6" x 6"	13	\$42.95
400P	2"	9" x 9"	22	54.95





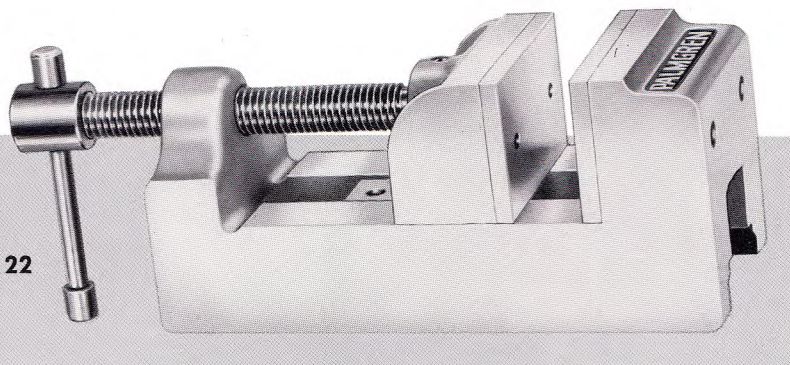
No. 55

No. 55 ALL ANGLE VISE

The PALMGREN No. 55 is a universal angle vise that makes possible quick easy setup — for single angles and for compound angles. Adaptable for drilling, tapping, milling and grinding work. Body and base are calibrated 0° to 90° for ease of set up. Locks securely in position for the angle or angles required.

Swivel base provides complete rotation and is graduated full 360°. The swivel base is detachable from angle base. Bases have $\frac{5}{8}$ " keyway and two bolt slots for mounting on machine table.

Vise No.	Width Jaws	Depth Jaws	Opening Jaws	Top Angle	Base Length	Weight Lbs.	Net Price
55	2½"	1½"	2½"	90°	6"	18	\$39.95



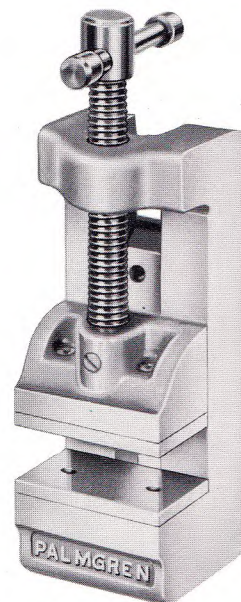
No. 22

No. 11 and No. 22 GROUND VISES

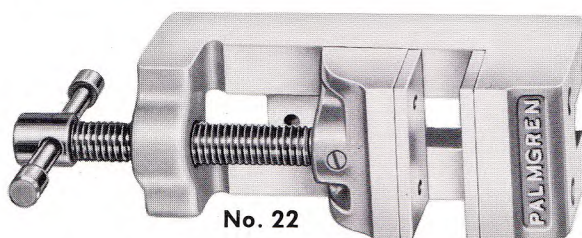
PALMGREN ground vises are machined and ground on all sides to assure accurate positioning for grinding and layout operations. They may be turned on either side, end, or upside down.

Both are precision ground, and are made of high grade grey iron. The ground steel jaw plates are removable. Adjusting screws are steel, with fine pitch thread and long bearing in vise body.

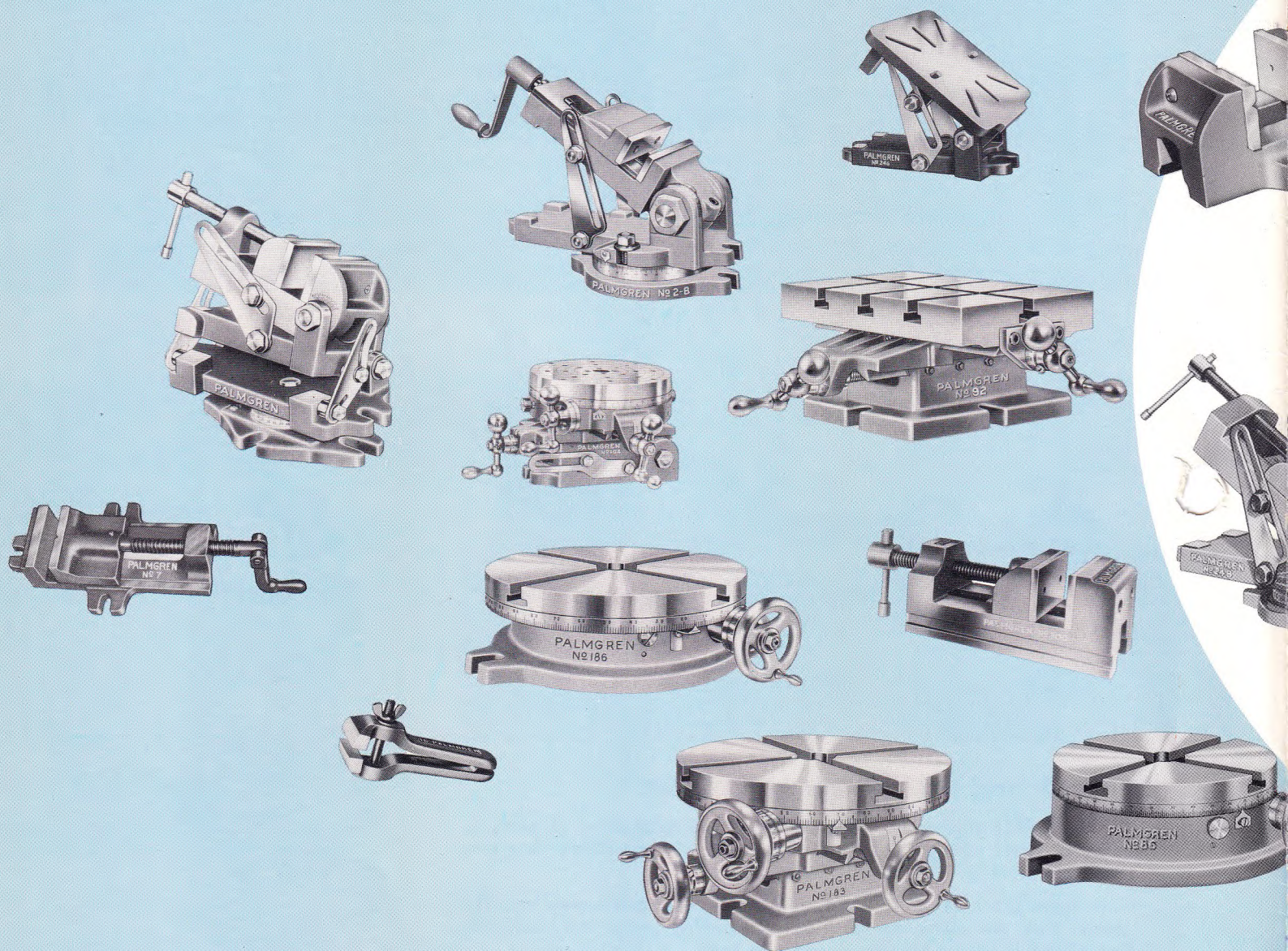
No. 11 Jaw Width 1½" Jaw Opens 1½"\$24.95
 No. 22 Jaw Width 2½" Jaw Opens 2½"\$34.95



No. 22



No. 22



PALMGREN STEEL PRODUCTS

DIVISION OF

CHICAGO TOOL AND ENGINEERING CO.

8383 SOUTH CHICAGO AVENUE, CHICAGO, ILLINOIS 60617